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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,810	06/20/2003	Kirtland P. Clark	CHEM-30134	9245

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EXAMINER	
ANTHONY, JOSEPH DAVID	
ART UNIT	**PAPER NUMBER**
1714	

DATE MAILED: 08/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/600,810	CLARK, KIRTLAND P.	
	Examiner	Art Unit	
	Joseph D. Anthony	1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17,20 and 21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17 and 20-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

FINAL REJECTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-17 and 20-21 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a concentrate that comprises at least: 1) water, 2) a high molecular weight acidic polymer (i.e. this is a anionic surfactant) and 3) a foam forming agent (i.e. a foam forming surfactant), does not reasonably provide enablement for a foam concentrate that does not contain any foaming agent (i.e. a foam forming surfactant). It is unclear from the specification if applicant's claimed high molecular weight acidic polymer/surfactants are themselves effective foaming agents or are just capable of acting as stabilizers for other foaming agents, such as lower molecular weight anionic and non-ionic surfactants. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims assuming that the claimed high molecular weight acidic polymers/surfactants are not themselves effective foaming agents.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-17 and 20-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-17 and 20-21 are indefinite in regards to what the metes and bounds are of the phrase "high molecular weight" in regards to the required acidic polymer.

Claim 21 is further indefinite because the preamble of the claim is drawn to a "concentrate" whereas claim 21 is dependent on claim 14 which is not a concentrate but rather a fire fighting composition.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-5, 7-17 and 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al. U.S. Patent Number 4,284,517 or Galleguillos et al. U.S. Patent Number 6,361,768.

Chen et al teaches a method for the recovery of oil from an oil-containing subterranean formation by waterflooding employing as an injection medium an aqueous solution of an anionic polymeric surfactant formed by reacting a polymer including succinic anhydride moieties with a primary amine to provide a polymeric reaction product in which at least 20 mol percent of the anhydride moieties have been converted, by reaction with said amine, to succinimide or succinamide groups. The polymeric anionic surfactants of the invention exhibit good physical and chemical stability, are shear stable, are effective in maintaining the salt stability of other surfactants (such as petroleum sulfonates) and also function as viscosifiers, even in the presence of significant concentrations of divalent metal ions. According to a preferred form of the invention, the surfactants comprise the reaction product of a copolymer of styrene and maleic anhydride and triethylammonium aniline disulfonate, in which reaction product from 20 mol percent to 40 mol percent of the anhydride moieties have been converted to succinimide or succinamide groups, see abstract. The disclosed polymeric anionic surfactants are deemed to read on applicant's

claimed high molecular weight acid polymers. The present of metal cations as well as ammonium cations, both present as salts is direct disclosed, see column 7, line 53 to column 8, line 43. applicant's claims are deemed to be anticipated over the examples set forth in Table IIIB and Table IV wherein a HMW-AP is admixed with a mixed aqueous brine and in Fig. 1..

Galleguillos et al. teaches a novel hydrophilic ampholytic polymer synthesized by reacting polymerizable amino and carboxy functional ethylenically unsaturated monomers, together with a non-ionic hydrophilic monomer, to provide a polymer having a glass transition temperature (T.sub.g) above about 50.degree. C., and optionally hydrophobic monomer(s), and cross-linking monomer(s). The copolymer is precipitated from a polymerization media which includes a suitable organic solvent. The resulting copolymer is in the form of a fine powder, with submicron particle size. As such it is suitable for use as a thickener or rheology modifier in personal care formulations, such as shampoo, conditioner, and the like, as a bioadhesive, and for other pharmaceutical applications, see the abstract. The disclosed novel hydrophilic ampholytic polymer are deemed to read on applicant's claimed high molecular weight acidic polymers. Applicant's claims are deemed to be anticipated over Examples 21, 23, 26, 28 and 30 wherein the coordinating salt is for example cetrimonium chloride in example 21, dimethyl dialkyl ammonium chloride in example 23, and ammonium laureth sulfate in example 28. The fact that neither of the references directly state applicant's claimed limitation of: "the foam concentrate providing a

fire fighting composition when mixed with water so that the fire fighting compositions does not form a stable seal on cyclohexane and meets UL 162, Class B performance criteria for at least one of AFFF agents, and fluoroprotein (FP) agents without requiring organic fluorine" as set forth in independent claim 1 is acknowledged but such is deemed to be moot because the compositions set forth in the specific examples of each patent are deemed to inherently meet applicant's claimed spreading limitations due to the high concentration of the high molecular weight acidic polymer in the aqueous compositions, and due to the negative to neutral spreading coefficients (SC) that such high molecular weight acidic polymer agents have in the aqueous compositions. Furthermore, that fact that the references do not mention applicant's various tests is also deemed to be moot since the disclosed compositions are deemed to inherently meet one or more of these tests.

8. Claims 1-5, 7-17 and 20-21 are rejected under 35 U.S.C. 102(b) as anticipated by the Publication entitled: "Good Chemistry has never been so bad for fire!", found at www.chemguard.com/home/corporate/body_foam_story.html (Copyright 2001 Chemguard Inc.).

The Article directly teaches an aqueous concentrates comprising CHEMGUARD HS-100 (i.e. a high molecular weight acidic polymer) as a highly effective agent to add to AFFF agents for its excellent foam expansion properties and drain-time properties. Applicant's claims are deemed to be

anticipated over said aqueous CHEMGUARD HS-100 concentrates prior to their addition to the AFFF agent. The said CHEMGUARD HS-100 aqueous concentrates are deemed to actually contain some coordinating salts in their makeup. Although the Article does not expressively teach that the aqueous CHEMGUARD HS-100 concentrate themselves "provide a fire fighting composition when mixed with water so that the fire fighting compositions does not form a stable seal on cyclohexane and meets UL 162, Class B performance criteria for at least one of AFFF agents, and fluoroprotein (FP) agents without requiring organic fluorine" as set forth in independent claim 1, such limitations are deemed to be inherently present due to the very high concentration of the CHEMGUARD HS-100 agent in the aqueous concentrate, and due to the negative to neutral spreading coefficients (SC) of the CHEMGUARD HS-100 agent in the aqueous concentrate. Please note that claim 6 which requires the actually presence of a fluorochemical surfactant, is not being rejected here because although the Article directly teaches admixing CHEMGUARD HS-100 with fluorosurfactants, it teaches against using such a low level of fluorine surfactant in such admixtures, that the fluorine concentration by weight is less than about 0.006% of the fire-fighting composition as a whole.

9. Claims 1-17 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiesa, Jr. U.S. Patent Number 4,060,489 or Chiesa, Jr. U.S. Patent Number 4,387,032 or Chiesa, Jr. et al. U.S. Patent Number 4,464,267 or Jackovitz et al.

U.S. Patent Number 3,422,011 or Tsuji U.S. Patent Number 4,306,979 or Ferguson et al. U.S. Patent Number 3,457,172 or Kroke et al. U.S. Patent Number 3,579,466; all said patents individual in view of the Publication entitled: "Good Chemistry has never been so bad for fire!", found at: www.chemguard.com/home/corporate/body_foam_story.html (Copyright 2001 Chemguard Inc.).

Each of said primary references teach AFFF and AR-AFFF type concentrates for fighting fires. The foam concentrates as taught by the primary references, either do not contain any fluorosurfactants or if they do contain fluorosurfactants in the examples, such fluorosurfactants can be eliminated according to the individual broad disclosures of the patents, see column 3, lines 27-43 and the examples of Chiesa, Jr. '489; see column 6, lines 20-41 and the examples of Chiesa, Jr. '032; see abstract, examples and claims of Chiesa, Jr. et al. '267, see abstract of Jackovitz et al.; see column 4, lines 58-68, column 6, lines 22-41 and examples 1-4 of Tsuji; see abstract and examples I-III of Ferguson et al.; and see abstract and column 2, lines 18-23 of Kroke et al.. All of the said primary references differ from applicant's claimed invention in that they do not directly disclose the further addition of high molecular weight acidic polymers as stabilizers to their disclosed AFFF and/or AR-AFFF concentrates.

The secondary reference as been described above and teaches that it is well known in the art to add high molecular weight acidic polymers (e.g. CHEMGUARD HS-100) to AFFF and/or AR-AFFF concentrates as effective foam

stabilizers and expansion agents that highly improve the performance of the AFFF and/or AR-AFFF concentrates when used.

It would have been obvious to one having ordinary skill in the art to use the disclosure of the secondary reference to the advantages of adding high molecular weight acidic polymers (e.g. CHEMGUARD HS-100) to AFFF and/or AR-AFFF foam concentrates as motivation to actually had them to the fluorosurfactant free foam concentrates as taught by and disclosed by anyone of the primary references. The fact that none of the applied primary references or the secondary reference directly state applicant's claimed limitation of: "the foam concentrate providing a fire fighting composition when mixed with water so that the fire fighting compositions does not form a stable seal on cyclohexane and meets UL 162, Class B performance criteria for at least one of AFFF agents, and fluoroprotein (FP) agents without requiring organic fluorine" as set forth in independent claim 1 is acknowledged but such is deemed to be moot. Applicant's invention is deemed to be obvious over the above combinations of the primary references and the secondary reference because it well known in that art that foam concentrates that do no contain fluorosurfactants will most frequently not form stable seals on cyclohexane. This is one of the main reasons why so many foam concentrates actually do include fluorosurfactants so that they will form stable seals on cyclohexane. Furthermore, that fact that the references do not mention applicant's various tests is deemed to be moot since the disclosed foam

concentrates are deemed to inherently meet one or more of these tests when used according to the disclosed process.

Response to Arguments

10. Applicant's arguments filed 06/28/05 with the amendment and Declaration filed under 37 CFR 1.132, have been fully considered but are not persuasive to put the application in condition for allowance for the reasons set forth above. Additional examiner comments are set forth next.

The examiner is at lost to understand applicant's arguments made in the REMARKS section the amendment set forth on page 6 in regards to the 35 USC 112 first paragraph rejections. Applicant seems to have misread by 180 degrees what the examiner stated very clearly in the scope of claim rejection. The examiner agrees whole hardly with applicant that paragraph [0026] of applicant's originally filed specification does not exclude the use of foaming agents or surfactants. It was the examiner himself that employed section [0026] as support that applicant's claims are only enabled for fire fighting concentrates that include a foaming agent or surfactant along with water and a high molecular weight acidic polymer (HMWAP), since water and the high molecular weight acidic polymer (HMWAP) are themselves not foaming agents, and the high molecular weight acidic polymer (HMWAP) is disclosed to function as a stabilizer for synthetic liquid concentrate foam bubbles.

The examiner is maintaining that claims 1-17 and 20-21 are indefinite in regards to what the metes and bounds are of the phrase "high molecular weight" in regards to

the required HMWAP. Applicant's representative argues that paragraph [0016] in applicant's originally filed specification clearly defines the metes and bounds on what is meant by a HMWAP. The examiner disagrees. Section [0016] states in part: "The HMWAP ***may have*** an average molecular weight of from about 5000 to about 2,000,00 or greater."[Emphasis added]. **"may have"** is not a limiting definition of the high molecular weight acidic polymer. It is really nothing more than listing specific molecular weight ranges of HMWAP that fall within applicant's claimed high molecular weight acidic polymers. Furthermore, the examiner's position is strongly support by applicant's originally filed dependent claim 13 which states: "The concentrate of claim 1, wherein the HMWAP includes those polymers having C4 to C22 alkyl branching and having an average MW of from 5000 or greater". This claim 13 clearly shows that applicant did not intend for the HMWAP, claimed in original independent claim 1, to be limited to the specifically disclosed molecular weights as set forth in section [0016].

The examiner has dropped the previously made 35 USC 112 2nd paragraph rejection made over the claims in regards to the metes and bounds of what the claimed performance tests require. The examiner accepts applicant's position that such performance tests are clear and are bound by the description set forth in applicant's specification as originally filed.

Applicant's arguments, se forth in the REMARKS section and in the Declaration filed under 37 CFR 1.132, against all the applied prior-art references are not well taken. Applicant's main argument is that applicant's invention positively excludes those fire fighting composition which are made by adding a fire fighting concentrate to water that

forms a stable seal on cyclohexane, and that the compositions of the applied prior-art do not inherently teach such a limitation. It seems to the examiner that applicant has lost site of the statutory class of invention that applicant's claims 1-13 and 20 are drawn to. Applicant's claims 1-13 and 20 are concentrate claims. They are not method of fire fighting claims. The performance tests requirements, as set forth in applicant's independent claim 1, are really performance requirements that are necessary for a final product (i.e. a fire fighting compositions). The problem here is that applicant is not claiming such a final fire fighting composition in claims 1-13 and 20, but is rather claiming a fire fighting concentrate that can subsequently be used to make a fire fighting composition. Since applicant's claims are drawn to a fire fighting concentrate there is no requirement that applicant's method step performance requirements for an actual fire fighting composition, that uses the claimed fire fighting concentrate as one of its components among optional other components, has to be disclosed by the applied prior-art. In regards to applicant's claims 14-17 and 21, which are drawn to a fire fighting composition (i.e. a final product), applicant's argument in said Declaration filed under 37 CFR 1.132 over the applied Chen et al and Galleguillos et al patents are not well taken. Applicant basically tries to overcome said applied patents but arguing that the compositions disclosed by the applied prior-art do not inherently posses applicant's claimed parameter limitations, because applicant's own disclosure shows that not all HMWAP containing fire-fighting compositions meet applicant's claimed performance limitations. While such may well be true, it is deemed to be moot, because the examiner has rejected applicant's claims as being anticipated by the compositions taught by Chen

et al and Galleguillos et al.. In any case, applicant has wholly failed to show any proof that the compositions taught by said prior-art patents do not inherently meet applicant's claimed limitations.

In regards to the prior-art rejections made over the applied Publication entitled: "Good Chemistry has never been so bad for fire!", found at www.chemguard.com/home/corporate/body_foam_story.html (Copyright 2001 Chemguard Inc.), applicant seems to assert that the present application was filed prior to the publication date of said Publication and as such said Publication should not be considered prior-art. Applicant's declaration which makes said assertion was filed under 37 CFR 1.132 . Applicant is reminded that to swear behind an applied reference applicant would of have to file a Declaration under 37 CFR 1.131.

Conclusion

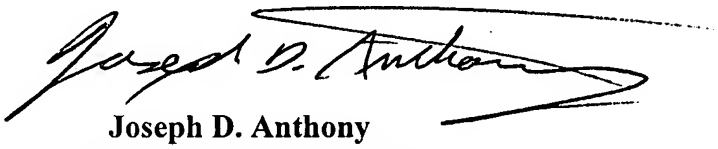
11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Examiner Information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Joseph D. Anthony whose telephone number is (571) 272-1117. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (571) 272-1119. The centralized FAX machine number is (571) 273-8300. All other papers received by FAX will be treated as Official communications and cannot be immediately handled by the Examiner.



Joseph D. Anthony
Primary Patent Examiner
Art Unit 1714

8/25/05